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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,504	01/07/2002	Yu-Choung Chang	BHT-3111-227	5149

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EXAMINER

NGUYEN, TRAN N

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/036,504	CHANG ET AL.	
	Examiner	Art Unit	
	Tran N. Nguyen	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/7/02 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Taiwan on 9/19/01. It is noted, however, that applicant has not filed a certified copy of the Taiwanese application as required by 35 U.S.C. 119(b).

Drawings

1. **Figures 1A-1C and 2** should be designated by a legend such as --**Prior Art**-- because only that which is old is illustrated. See MPEP § 608.02(g).
2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the following:

(1) the *air gap (255, 255e) with suitable distance being located between the side surface and contour of rotor core*, as described in the specification. The pictorial ref number (255) that is designated for the air gap but no air gap is shown; rather just a core portion is shown.

(2) *the top surface being adjacent to and extending along the circumference a contour of rotor core*, as described on page 8. Figs 3-8 show the top surface being a straight line extending across the circular contour of the rotor core, rather than being circularly extending along (*where the term along means on a line parallel and close to, see the dictionary's definition inserted herein*) parallel to the contour of the rotor, in other words the top surface should be shown as an arc or curve surface that extending parallel to the rotor core's contour as "*the top surface being adjacent to and extending along a contour of rotor core*"

Along

1. Over the length of: *walked along the path.*
2. **On a line (or course) parallel and close to;** continuously beside: *rowed along the shore; the trees along the avenue.*
3. In accordance with: *The committee split along party lines over the issue.*¹

¹ The American Heritage® Dictionary of the English Language, Third Edition copyright © 1992 by Houghton Mifflin Company. Electronic version licensed from INSO Corporation; further reproduction and distribution restricted in accordance with the Copyright Law of the United States. All rights reserved.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). *The drawings must show every feature of the invention specified in the **claims**.* Therefore, the following must be shown or the feature(s) canceled from the claim(s):

(a) *the air gap with suitable distance being located between the side surface and contour of rotor core*, as recited in claims 1 and 16. the term “air gap” is understood as an air-filled opening or an empty-spaced opening or simply an aperture. The drawings do not show any of the opening or empty-spacing hole or air-filled aperture, ref (255) simple pictorially refers to a core portion between the side surface and the outside contour of the core.

(b) *the top surface being adjacent to and extending along (i.e., on the line or course that is parallel and close to) a contour of rotor core*, as recited in claims 1 and 16. Figs 3-8 show the top surface being a straight line extending across the circular contour of the rotor core, rather than being extending along, i.e., extending circumferentially in a circular-path parallel to the contour of the rotor, in other words the top surface should be shown as an arc or curve surface that extending circumferentially parallel to the rotor core’s contour as “*the top surface being adjacent to and extending along a contour of rotor core*” recited in the claims.

(c) *the convex and concave points of the silicon steel sheet*, as in claims 7 and 22, must be shown or the feature(s) canceled from the claim(s).

No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following:

Specification, page 8, describes: the opening 25 is with two parallel surfaces, a top surface 251 and a bottom surface 252. *The top surface 251 is adjacent to contour of rotor core 20 and extends along the circumference contour of the rotor core 20 so as to form a side surface 253 that is substantially parallel to the outer contour of the rotor core 20. In this preferred embodiment, the side surface 253 is an arc surface, which curvature is equal to the circumference contour of the rotor core 20.*

The description of “***the top surface 251 is adjacent to contour of rotor core 20 and extends along the circumference contour of the rotor core 20***” is understood as the top surface (251) is adjacent and extended parallel to the rotor core’s circumferential contour. Therefore, it is unclear how the circumferentially-curved-contour top-surface can form a side-surface of an arc-shaped surface that also being parallel to the outer contour of the rotor core, since the side-surface is generally and substantially extends sideways with respect to the top-surface.

Specification, page 8, further describes, “*Two adjacent side surfaces 253 are with a channel 254 with suitable width. The width of the channel 254 is small and the function of flux-barrier*” is unclear because the term channel is understood as: a trench, a furrow or a groove, or a tubular passage for object to be moved or directed there through. While in the claimed invention, the so-called channel is function as a flux barrier, i.e., preventing the flux from flowing there through. Also, as known in the art of permanent magnet rotor, a flux barrier is usually formed such as: a nonmagnetic-material object, an air-gap, an empty-space or air-filled groove/hole/recess/aperture. On the contrary, the present invention describes a bridge portion (256) of the rotor core being between the two adjacent side surfaces (256), wherein the rotor core is a magnetic core; therefore, the portion (256) would conduct the magnetic flux flow instead of preventing the flux flow as a function of a flux barrier.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-30 are rejected under **35 U.S.C. 112, first paragraph**, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Particularly, *the top surface is adjacent to contour of rotor core and extends along (circularly parallel) the circumference contour so as to form a side surface which also having an arc surface with the curvature being the same as circumference contour of the rotor core (claims 1, 8-9, 16 and 23-24)*. The recited top surface is parallel to the rotor core's circumferential contour; therefore, geometrically it cannot form a side surface that is also having curvature being the same as the circumference contour of the rotor core because the side surface generally being at a certain angle with respect to the top surface. See the Specification Objection for the more detail reasoning.

4. **Claims 1-30** are rejected under 35 U.S.C. 112, **second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 8-9, “the top surface being adjacent to and extending along a contour of rotor core so as to form a side surface”, and “the side surface is a surface with arc edge wherein a curvature of the arc surface is same as circumference contour of the rotor core”;

In claims 16 and 24-25, “the top surface being adjacent to an outer contour of rotor core” and “the top surface extends along the outer contour of the rotor core to form a side surface” and “the

side surface is a surface with arc edge wherein a curvature of the arc surface is same as circumference contour of the rotor core”.

These recitations are indefinite because the top surface is understood as being ***adjacent and extended parallel to*** (i.e., extending along) the rotor core’s circumferential contour. Therefore, it is unclear how the circumferentially-curved-contour top-surface can form a side-surface of an arc-shaped surface that *also being parallel to the outer contour of the rotor core*, since the side-surface is generally and substantially extends sideways with respect to the top-surface.

Also, **in claims 1 and 16**, “an air gap with suitable distance being located between the side surface and contour of rotor core, and any two adjacent side surfaces being spaced-apart with a channel of suitable width” is indefinite because of the following:

the terms “suitable” in *suitable distance* and *suitable width* of the recitation is a relative term;

the phrase “an air gap with suitable distance being located between the side surface and contour of rotor core” is unclear. since the rotor core is recited as a cylindrical structure; therefore, around any given circumferential area or portion of the rotor core, there is a contour, or more specifically an arc contour exists.

The phrase “any two adjacent side surfaces being spaced-apart with a channel of suitable width” is unclear since the term channel can be understood as a hollow or a groove area for object to flow while, according to the specification, the claimed channel is a flux barrier, i.e., preventing the flow of the magnetic flux.

The above are but a few specific examples of indefinite language used throughout this claim, and are only intended to illustrate the extensive revision required to overcome the rejection under 35 USC 112, first and second paragraph. The above-mentioned corrections therefore, are in no way a complete and thorough listing of every indefinite and functional or operational language used throughout this claim. Applicant is required to revise all of the

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claim completely, and not just correct the indefinite and functional or operational languages mentioned.

MPEP 2173.06 states:

"...where there is a great deal of confusion and uncertainty as to the proper interpretation of the limitations of a claim, it would not be proper to reject such a claim on the basis of prior art. As stated in In re Steele , 305 F.2d 859, 134 USPQ 292 (CCPA 1962), a rejection under 35 U.S.C. 103 should not be based on considerable speculation about the meaning of terms employed in a claim or assumptions that must be made as to the scope of the claims."

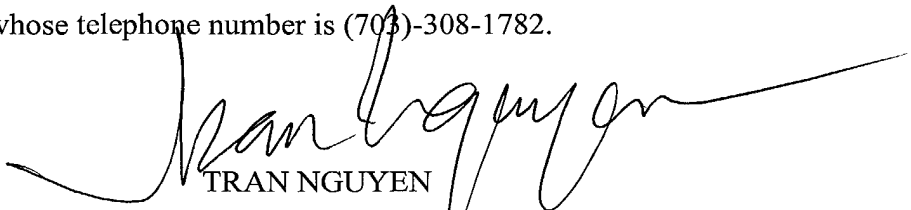
Given the great deal of confusion and uncertainty as to the proper interpretation of the limitations of claims, it would not be proper to reject claims 1-30 on the basis of prior art. Therefore, no art-related rejection based on prior art is given at this point of prosecution.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N Nguyen whose telephone number is (703) 308-1639. The examiner can normally be reached on M-F 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)-395-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1782.



TRAN NGUYEN

PRIMARY PATENT EXAMINER

TC-2800